

Taliban changes Amu Derya's water-sharing equation through the Qosh Tepa Canal

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Abstract

The article examines how the Taliban's implementation of the Qosh Tepa Canal project changes Amu Derya's water-sharing equation and its impact on the region. The construction of the canal aims to increase Afghanistan's water resources and send a message to the international community. It represents a strategic effort to enhance agricultural production by drawing water from the Amu Darya River, thereby reshaping the regional water dynamics. Despite not being included in previous regional water agreements, Afghanistan seeks to assert its water rights through this project. The Taliban administration is actively pushing for the rapid completion of the project, emphasizing its potential to significantly influence regional water politics. However, concerns are raised about potential tensions with neighboring countries due to the project's implications for water distribution. Consequently, the article suggests a reassessment of regional water diplomacy to address the evolving dynamics introduced by the Qosh Tepa Canal project.

Keywords: Qosh Tepa Canal, Amu Darya River, Water Sharing, Taliban,



Introduction

Amu Derya (Ceyhun) River, together with the Siri Derya River (Seyhun), is a river of great importance in terms of water security of Central Asian countries. In these river basins, Kyrgyzstan, Tajikistan, Kazakhstan, Uzbekistan, and Turkmenistan, signed the Almaty agreement in 1992 and decided to use the quotas accepted in the USSR era. According to this agreement, Turkmenistan, Uzbekistan, Tajikistan, and Kyrgyzstan; agreed to jointly use a significant portion of Amu Darya water. However, Afghanistan has not been invited to these signature countries and therefore did not take part in the agreement.

The only international document that determines the Amu Darya water rights of Afghanistan is the agreement with the USSR in 1946. According to this agreement, Afghanistan has the right to use 9 billion m³ of water per year. However, since the 1970s, Afghanistan has withdrawn between 2-5 billion m³ of water per year due to internal turmoil and civil wars. Many agricultural irrigation projects developed by Afghanistan were not implemented.

Afghanistan has not been included in the maps showing the basin countries in many international reports and articles in which the sharing of restricted waters in Central Asia has been discussed so far. However, Afghanistan is a country in the Amu Darya River basin that contributes to the total annual flow of this river by 27.5 %.



Figure 1. Amu Darya River Basin

Amu Darya's hydrology and water allocations

Amu Darya, one of the two major rivers of the region, is fed through the snow and glacier melt in the Pamir mountains in Kyrgyzstan and Afghanistan, passing through the Karakum desert and reaching the Aral Sea (Fig.1) . It is 2574 km. long river and passes through Turkmenistan, Uzbekistan, Kyrgyzstan, Tajikistan and Afghanistan. The Amu Darya also forms a common borderline of 1,800 km between Afghanistan and Tajikistan, Uzbekistan, and Turkmenistan (5).

Amu Darya is formed by three main rivers originating from three different countries. These are the Panj River in Afghanistan (Pamir and Wakhan Rivers), the Murghab (Bartang) River, which originated from Afghanistan and flows to Lake Sarez, and the Muksu River born in Tajikistan (1).

The Amu Darya River is mostly fed by snow melting. The annual water potential of the river varies between 45 billion m³ and 100 billion m³. In the literature, different values are given about average annual water potential. In much of the literature, Amu Darya's long-term average water potential is given as 80 billion³/year (1). Kamil (2) gives in his article , Amu Darya's maximum annual flow of 108 billion m³ /year, a minimum annual flow of 47 billion m³ /year, long term average water flow of 75 billion m³ /year. (2). The total drainage area of Amu Darya is 309,000 km². 74 % of this area is in Tajikistan, 13 %in Afghanistan, 8.5 %in Uzbekistan, 2 %in Kyrgyzstan, and 1.7 %in Turkmenistan.

In the Food and Agriculture Organization of the United Nations Report (1), the contribution of basin countries to the total annual flow of the river is as follows;

Tajikistan's contribution is 62.5 %with 50 billion m³, and Afghanistan's contribution is 27.5 % with 22 billion m³. In the report, it says that the contribution of Uzbekistan is 6,3 % with 5 billion m³ and 1.5 % of Kyrgyzstan and Turkmenistan with 1.5 billion m³.

In another report of (FAO), Amu Darya's annual average flow is given as 78.46 km³. 59.45 km³ of this flow comes from Tajikistan, 11,7 km³ from Afghanistan (15%), 7 km³ from Uzbekistan, 1.93 km³ from Kyrgyzstan, and 0.68 km³ from Turkmenistan (12).

According to the 1987 Tashkent Agreement in the Amu Darya River Basin, the majority of the annual average flow was allocated to Uzbekistan and Turkmenistan. Today, 47 % of this water is used by Uzbekistan, 33 % is used by Turkmenistan, 11 % is used by Tajikistan, and 2 % is used by Kyrgyzstan. Afghanistan, which is not included in this agreement, benefits only 7 % of the annual water of Amu Darya (2). In some other publications, these rates are close to these data (1).

The International Water Coordination Commission in Central Asia, which was established in 1992, is responsible for the determination of regional water policy and the approval of water drawing limits. Amu Darya Basin Water Organization (BWO Amu Darya) manages the allocation of water in the basin (11).

Accordingly, the existing water allocation was determined by taking into account a total of 61.5 billion cubic meters of water except Afghanistan's water extraction for 2.1 billion cubic meters. In this case, Kyrgyzstan's water withdraw rate is 0.6 %, Tajikistan's rate is 15.4 %, Uzbekistan's rate is 48.2 % and Turkmenistan's rate is 35.8 %.(11).

Irrigated Lands

It is estimated that the total area irrigated with Amu Darya water is around 6 million hectares. 1.15 million hectares of this total irrigated land is located in Afghanistan, 2.3 million hectares in Uzbekistan 1.7 million hectares in Turkmenistan, 0.5 million hectares in Tajikistan, 0.1 million hectares in Kyrgyz Republic (2).

Turkmenistan's Karakum Canal

The largest and most important artificial waterway in Turkmenistan is the Karakum Canal. This canal was built in the 1950s and is the longest channel in the world with a length of 1,300 km. The canal capacity is 630 m³/sec. The entrance of the canal over Amu Darya is immediately after the entrance of the river to Turkmenistan from Uzbekistan. The Karakum Canal combines the Amu Darya, Murghab, and Tedzhen rivers in an integrated water management system. This canal provides water to the densely populated south of the country and irrigates more than 1.2 million hectares. Every year, 10–12 km³ of water is drawn from Amu Darya to the canal that transfers water to Ashgabat and the south oasis. (1,4).



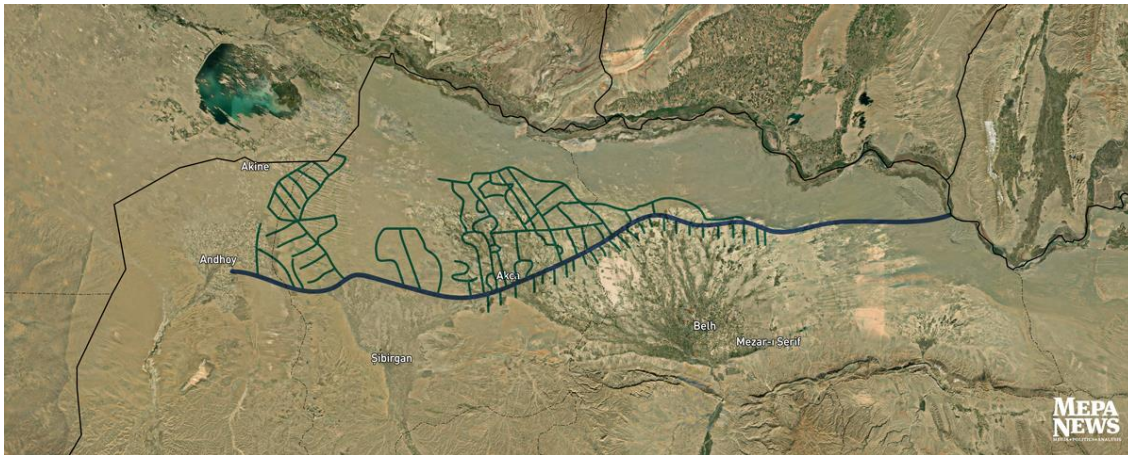


Figure 2. The Qosh Tepa Canal

The Qosh Tepa Canal in Afghanistan

This irrigation canal proposal was first put forward in the 1970s during the presidency of Muhammad Davud Khan. However, the invasion of the Soviets of Afghanistan and then the political and economic instability caused by civil wars in the country led to the long-term postponement of the project. About 40 years later, the previous Afghan government, led by Eşref Gani, attempted to build the channel. However, after the fall of the Gani Government, the construction of the Qosh Tepa Canal project was started by the Taliban in March 2022 (5).

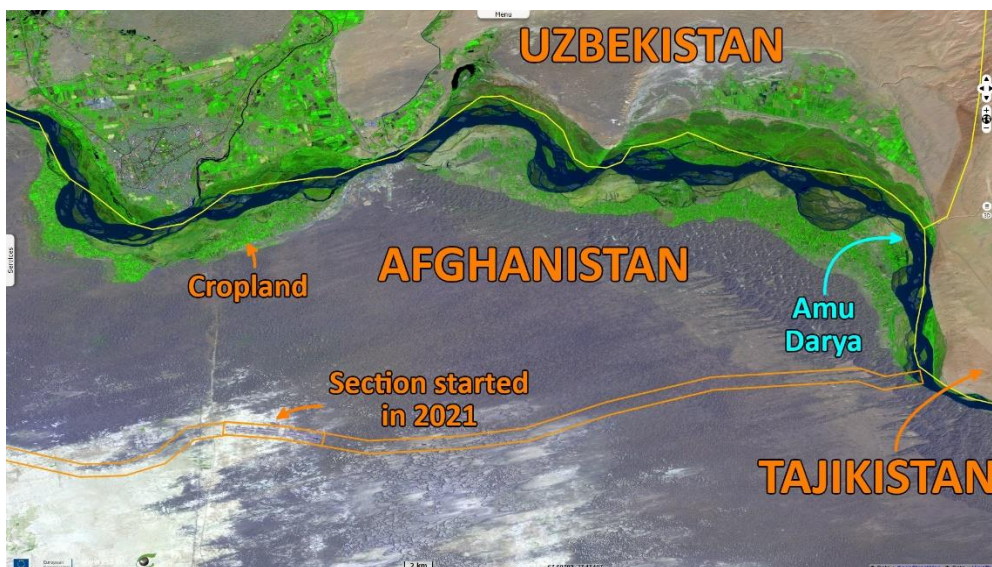


Figure 3 . The Qosh Tepa Canal Route

The Qosh Tepa irrigation canal bearing the name of the Qosh Tepea region in Jawzjan, Afghanistan, was designed with 285 km long and 100 meters wide 8.5 m deep, and 650 m³/sec discharge capacity (9,10).(Fig. 2) The Project consists of three stages, The first stage of the Project has a length of 108 km starting from the Amu Darya River and reaching the Dawlatabad district of Balkh.(Fig3). The second stage has a length of 177 km. starts from Dawlatabad in Balk to the Andhoy district of the Faryab province. The third step includes the construction of the in-field channels (8).

The Qosh Tepa Canal is planned to be completed by the Afghan National Development Company in five years with a cost of approximately 666.8 million dollars (5, 9).

The Taliban administration wants to complete the channel, which is planned to irrigate 550,000 hectares of land, as soon as possible. For this reason, more than 200 subcontractors under the supervision of the National Development Company of Afghanistan work with more than 3300 construction machinery at 120 different points (Fig 4). Satellite photos show that more than 100 km of channel excavations have been carried out from April 2022 to February 2023.

Feasibility studies are carried out by the former American-backed Afghan government with the help of USAID in 2018. Taliban came back to power again in 2021 and has prioritized the project. The first 100 km stage of the project cost is covered by Afghanistan. For the next two stages, it is planned to provide funding from the sale of Dar-e-Soup mines.

Similar to the previous Afghan government, Taliban seem to allocate revenues from the Mazar e Sharif coal mine to fund the Qosh Tepa Canal (14). The Taliban, however, have so far denied any involvement of foreign expertise or financial resources in the project, asserting it to be Afghan designed and funded (14).



Figure 4 . The Qosh Tepa Canal Construction

The Qosh Tepa Canal represents the largest irrigation scheme that Afghanistan has ever undertaken. Building the canal's intake is a crucial technical step. The region is prone to intense river bank erosion, causing the loss of thousands of hectares of land each year. Furthermore, the high sediment volume in the river flow could quickly fill the intake if it is not designed properly. The intake, located on the border with Tajikistan and near the Uzbekistan border, would require interstate cooperation and coordination for any construction activities(14).

Taliban's International Recognition Problem and the Qosh Tepa Canal Project

The first Taliban administration in Afghanistan between 1996 and 2001 was recognized by Pakistan, the United Arab Emirates (UAE), and Saudi Arabia. No state recognizes the Taliban

seized the administration for the second time after the withdrawal of the US Army in 2021. It is also difficult to say that the Taliban movement established full authority within the country. This gives the problem of internal and external legitimacy for the Taliban.

The Taliban decided to continue the Qosh Tepa Canal Project to strengthen its dominance and to give a message outside the country. Taliban thus tries to highlight self-sufficiency in the development of the country and give the message that there is no need for external support. It can also be thought that the Taliban at least wants to force countries of the region to develop new water cooperation through this canal.

The Taliban authorities may also leverage this towards recognition as a precondition for any cooperation with other riparian states over the Amu Darya river

The Taliban authorities have made substantial efforts to symbolize the project as a sign of their commitment to Afghanistan's development and their service to ethnic minorities, who stand to benefit from this project but are largely absent from the group's power structure. Additionally, the project will help the Taliban gain legitimacy and consolidate their control over the northern part of the country(14).

By starting this project the Taliban administration may want to show a visioner and stronger face of country administration to international community. This approach of Afghanistan also prepares a suitable base for countries that want to establish relations with Afghanistan like China and Russia.

China appointed an ambassador to Kabul in September 2023, and in January 2024, the Taliban appointed an ambassador to Beijing. This situation can be taken as a sign that the relations between the parties are developing significantly. It is known that the inclusion of Afghanistan in the China-Pakistan Economic Corridor (CPEC) in the process after the withdrawal of the USA from Afghanistan (CEC).

In January 2023, Sincan Central Asian Petroleum and Gas Company (also known as CAPEIC) signed a four-year investment agreement of \$ 720 million with the Taliban government in Afghanistan for the extraction of the Amu Darya basin on its side (7). The agreement includes the royalty right to 15 percent of the Afghan government for 25 years. In addition, the China consider this basin as the third largest potential gas field in the world. This could be considered as a sign that relations may develop between China and Afghanistan (6).

China's Sincan Central Asian oil and gas company signed an agreement with the Taliban administration in January 2023 for oil exploration activity in Afghanistan's Amu Derya basin.

China also wants to complete the mining and energy projects in the Mes Aynak and Amu Derya Basin. These developing relations will have direct and indirect effects on the regional water problems shortly.



Figure 5. Amu Darya Basin

Transboundary water agreements and hydropolitics in the Amu Darya Basin.

With the first agreement signed between Afghanistan and the USSR in 1946, it was determined that Afghanistan had the right to use water from the Panj River to 9 km³/year. Amu Darya's second international agreement was signed in 1958. After 1963, the relationship between the two countries gradually deteriorated, and the USSR invasion, which lasted from 1979 to 1989, changed the situation totally in Afghanistan.

USSR withdrew from Afghanistan in 1989 and disintegrated in 1991. However, this invasion has left deep effects in Afghanistan, such as ethnic conflicts and the rise of the Taliban.

During this period, Afghanistan was not invited to any of the regional water agreements due to the conflicts he was in and he couldn't become a party in these agreements.

In the 1970s, Afghanistan made an effort to negotiate Amu Darya's water-sharing agreement but could not get results due to impacts that led to decades of unrest. Similarly, the Afghan government tried to cooperate with neighboring countries after the first Taliban administration, and resulted in the agreement signed on data sharing and information transfer.

In 2007, an agreement was signed between Afghanistan and Tajikistan for cooperation in the field of shared water resource development projects.

Similarly, a protocol was signed in 2010 to provide drinking water between Afghanistan and Tajikistan, and another memorandum of understanding was signed in 2014.

With this memorandum, it was decided that Afghanistan and Tajikistan agree to exchange hydrological data and information regularly and free of charge (2) However, all agreements signed in Central Asia and Amu Darya River Basin states (Fig.5) don't work well. Although all agreements are in force, the parties have taken very little concrete action to implement these agreements (2).

Conclusion and Evaluation

In the Amu Darya basin, Kazakhstan, Uzbekistan, Turkmenistan, and Tajikistan were seen as the main actors and Iran and Afghanistan were second-degree actors in transboundary water interrelation.

Due to long-term occupation and civil wars, Afghanistan was not invited or involved in water cooperation relations in the region. But the decision to implement the Qosh Tepa Canal project taken by the Second Taliban administration seems to have changed this status quo

Afghanistan wants to benefit from the water of the Amu Darya River to increase agricultural production. Afghanistan government thinks that he has the right to benefit from this water by taking into account his contribution to Amu Darya water.

Because the contribution and use of the countries in the Amu Darya basin to the river is very unequal. For example, although Turkmenistan's contribution to this river is around 2 %, this country uses approximately 33 %of the water of Amu Darya. Therefore, there is a very unequal situation in this basin in terms of contributing to water resources and use of the countries. In addition, regional water sharing, water management agreements, and organizations excluding Afghanistan in the past shadowed Afghanistan's water rights in this basin.



Figure 6. The Qosh Tepa Canal Construction

Agreements made by other basin countries do not create any rights as well as any obligations for Afghanistan. For this reason, there was a result that Afghanistan did not have to apply water allocation quotas within the scope of these agreements.

The 'equitable and reasonable' use and 'no-harm' rule are the two guiding principles of transboundary watercourses. The equitable and reasonable use rule has not been applied in this basin by riparian states. Amu Darya's transboundary water is used unequally among the basin states.

This unequal use of water by Turkmenistan and Uzbekistan also violates the international principle of not causing significant harm to the riparian countries. Early developer states of

transboundary water should have an equal obligation to avoid significant harm to the future use of the upstream countries, which have to develop this potential late for many reasons.

Evaluating this unequal allocation the Afghan administration seems to have planned to create a project similar to the Karakum Canal of Turkmenistan through the Qosh Tepa Canal and to obtain irrigation rights through a precedent.

The construction of Afghanistan's Qosh Tepa Canal(Fig.6) has created anxiety in the lower basin countries and has been considered a threat to national security by some Uzbek experts. The Uzbek Government offered the Taliban to participate in the construction of the Qosh Tepa Canal to minimize the negative effects that may arise with the implementation of this project. Uzbekistan wanted to participate in the construction of this canal and to achieve a position for the control of water. Additionally, Turkmenistan reportedly made official complaints through their embassy in Kabul about the project's potential impacts on downstream areas. Some Turkmen technicians also explained that the construction of this canal would be a disaster for the region.

There is no separate storage facility for the water to be drawn through the Qosh Tepa Canal. This water will be stored in the 285 km long main canal. It is planned to store 20.5 billion m³ of water in this canal (11).

An estimate of the amount of water to be used for irrigation can be made by considering the cropping pattern in the Taloqan River Basin in Afghanistan. In this estimation, the crop pattern can be made for annual wheat-rice rotation planting, water transmission losses can be taken as 70% and irrigation efficiency can be taken as 60%. Additionally, for crop water requirements, we can use the FAO climate information tool and consider the gross irrigated area as 800'000 ha (400,000 ha for winter wheat and 400,000 ha for rice), taking into account local climate and soil conditions. In this hypothetical scenario, the canal could potentially use almost all the flow produced in the Afghanistan region or 30% of the total average water in the river. In this case, 15.4 billion m³ of irrigation water will be drawn from the canal in a year (11).

In this scenario , Afghanistan wants to benefit most from the Amu Darya water and plan to use of water for two times agricultural products in a year. However, implementing this agricultural production and irrigation program seems to be difficult for now.

Such a scenario spells disaster for parts of the downstream nations. The high irrigation demands of the Uzbek and Turkmen economies makes them highly vulnerable to upstream water diversion(11). The Qosh Tepa Canal could exacerbate the water scarcity especially in Karakalpakstan and Khorezm province in UZB and Dashoguz Province in TKM and threatening agricultural sectors and livelihoods there(11).

Great changes in the structure of the water balance, definitely creates problems, including an increase in regional tensions. Scientists have said that the canal could mean Uzbekistan and Turkmenistan have up to 15% less of the Amu Darya's water to use for irrigation.

If the project is completed, Afghanistan will initially store 20.5 billion m³ of water in the canal. However, the selected crop pattern and agricultural planning will determine how much of this water will be used each year and in which season. Depending on the product pattern to be

chosen, this water can be withdrawn and stored during the winter period. Thus, an irrigation operation can be planned that will not cause a decrease in the irrigation water to be used by Uzbekistan and Turkmenistan.

It will take a long time to complete the construction of the Qosh Tepa Canal and to fully develop the irrigation of the planned 550 000 hectare area. It has been announced that the construction of the Irrigation Canal will be completed in 2028. In this case, the water to be drawn from the Amu Darya for irrigation will increase gradually as in-field canals are built and the land to be irrigated increases. This is a \$ 684 million project that is not easy to complete soon for the Taliban government, which is on the brink of economic crisis. And this funding force tries to influence bilateral relations

Upon completion, the Qosh Tepa canal project will have the ability to divert approximately 10-13 BCM annually from the Amu river (14). This significant volume of water diversion would profoundly affect both Uzbekistan and Turkmenistan as well as the existing regional water sharing arrangements among Central Asian states.

The amount of water to be used or whether the water to be drawn will be used efficiently will be the most important parameters that will redefine the Amu Darya water equation. In any case full development of Afghanistan's irrigation project with Amu Darya water can lead to changes in the structure of the water balance, definitely creates problems, including an increase in regional tensions. Scientists have said that the canal could mean Uzbekistan and Turkmenistan have up to 15% less of the Amu Darya's water to use for irrigation(13).

However, in any case, this project has already emerged as a project that can change the status quo and water equation in the Amu Darya River. Apart from the amount of water to be withdrawn from the Amu Darya, this project also has a feature that will provide the opportunity to establish new cooperation between Afghanistan and China. With this feature, the project will initiate the process of Afghanistan's inclusion as an effective actor in the hydropolitics of the Amu Darya River.

Water resources of the Amu River, already heavily strained due to climate change and melting of glaciers, would suffer further damage in the absence of effective coordination. It is argued that it would necessitate several years and considerable financial resources for both Uzbekistan and Turkmenistan to decrease their water use, either by enhancing irrigation efficiency or reducing irrigation activities (14).

Moreover, the situation in the Aral Sea would undeniably deteriorate further as the water volume would decrease even more, potentially reversing current efforts to address ecological concerns.

As the Qosh Tepa Canal construction continues, Central Asian nations must recalibrate their water-sharing agreements and build flexible, adaptive frameworks that account for all riparian nations. Maintaining the river's health and ensuring equitable and effective water distribution is fundamental for the region's stability, prosperity, and peace(11)

Rogun Dam and Qosh Tepa Canal projects should not lead to tension between the Amu Darya basin and Central Asian countries, but to initiate an innovative water diplomacy process.

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Biography



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